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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,437

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David W. Townsend

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SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
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EXAMINER

SMITH, RUTH S

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3737

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/623,437	Applicant(s) TOWNSEND ET AL.	
	Examiner Ruth S. Smith	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,10,16,43,44,49-54,56-61,65-75,91,99 and 145 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,10,16,43,44,49-54,56-61,65-75,91,99 and 145 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/13/07 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1,2,4,10,43,44,49,51-52,58-59,61,65,69-70,72-73,99 are rejected under 35 U.S.C. 102(e) as being anticipated by Morgan et al. The claims are readable on Morgan et al which discloses a combined CT and PET scanning system. The system includes a CT scanner A having a gantry, a PET scanner B, a patient support 28 and a display device E,F,G which can display a CT image, a PET image or a fused PET/CT image. The CT scanner is separate from and fixed relative to the PET scanner, the support is moveable between the scanners. The PET scanner is movable via rails 36 with respect to the CT scanner. Morgan et al disclose in column 8, the correction of the PET image for scatter. Morgan et al further discloses applying correction factors obtained from the CT image to the scatter corrected PET image (see column 9, lines 54-67, column 10, lines 1-3). With respect to the recitation of "without the use of fiducial markers", it should be noted that such a limitation is not considered to be a structural limitation, however, Morgan et al states in column 10, lines 4-14 that the use of fiducials for aligning the image data is not required as other known techniques can be used.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 53,54,68,74,75,91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al. Morgan et al disclose a combined CT and PET scanning system. The system includes a CT scanner A having a gantry, a PET scanner B, a patient support 28 and a display device E,F,G which can display a CT image, a PET image or a fused PET/CT image. In the absence of any showing of criticality, whether the PET scanner and CT scanner are moved while the patient support stays fixed or whether the scanners are fixed while the support is moved would have been an obvious matter of design choice of known equivalents in the art. The end result is the same, that being relative movement between the support and the scanners. Furthermore, in the absence of any showing of criticality, the specific manner in which the attenuation correction factors are determined and how the reconstruction of the attenuation-corrected image is accomplished would have been an obvious matter of design choice of known equivalents in the art.

Claims 16,56,66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al in view of Motomura et al. Morgan et al disclose a combined CT and PET scanning system. The system includes a CT scanner A having a gantry, a PET scanner B, a patient support 28 and a display device E,F,G which can display a CT image, a PET image or a fused PET/CT image. It is well known in the art to provide for truncation errors in fan beam based CT images due to a reduction in the effective field of view. An example of such is seen in Motomura et al. It would have been obvious to one skilled in the art to have modified Morgan et al such that the CT image is corrected for field of view truncation in that such is a well known expedient in the art for eliminating image artifacts.

Claims 50,60,71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al in view of DiFilippo et al. Morgan et al disclose a combined CT and PET scanning system. The system includes a CT scanner A having a gantry, a PET scanner B, a patient support 28 and a display device E,F,G which can display a CT image, a PET image or a fused PET/CT image. Morgan et al fails to specifically disclose how the patient is moved through the PET scanner. DiFilippo et al disclose a PET scanner where a patient is moved in an axial direction during scanning in order to acquire PET scan data. It would have been obvious to one skilled in the art to have modified Morgan et al such that the patient is moved axially through the PET scanner in order to acquire data from desired regions of the patient.

Claim 145 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al in view of Motomura et al and DiFilippo et al. Morgan et al disclose a combined CT and PET scanning system. The system includes a CT scanner A having a gantry, a PET scanner B, a patient support 28 and a display device E,F,G which can display a CT image, a PET image or a fused PET/CT image. It is well known in the art to provide for truncation errors in fan beam based CT images due to a reduction in the effective field of view. An example of such is seen in Motomura et al. It would have been obvious to one skilled in the art to have modified Morgan et al such that the CT image is corrected

for field of view truncation in that such is a well known expedient in the art for eliminating image artifacts. Morgan et al fails to specifically disclose how the patient is moved through the PET scanner. DiFilippo et al disclose a PET scanner where a patient is moved in an axial direction during scanning in order to acquire PET scan data. While DiFilippo et al is silent with respect to whether the movement is continuous, it would have been obvious to one skilled in the art to provide continuous movement of the patient support rather than intermittent movement in order to reduce scan time and in view of the fact that there is no requirement to stop movement of the patient support during scanning. The use of such continuous movement would inherently eliminate normalization effects. It would have been obvious to one skilled in the art to have modified Morgan et al such that the patient is continuously moved axially through the PET scanner in order to acquire data from desired regions of the patient.

Allowable Subject Matter

Claims 57,67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed December 13, 2007 have been fully considered but they are not persuasive. With respect to the recitation of "without the use of fiducial markers", it should be noted that such a limitation is not considered to be a structural limitation, however, Morgan et al states in column 10, lines 4-14 that the use of fiducials for aligning the image data is not required as other known techniques can be used. With respect to claim 49, Morgan et al disclose in column 8, the correction of the PET image for scatter. Morgan et al further discloses applying correction factors obtained from the CT image to the scatter corrected PET image (see column 9, lines 54-67, column 10, lines 1-3). With respect to claim 145, while DiFilippo et al is silent with respect to whether the movement is continuous, it would have been obvious to one skilled in the art to provide continuous movement of the patient support rather than

intermittent movement in order to reduce scan time and in view of the fact that there is no requirement to stop movement of the patient support during scanning. The use of such continuous movement would inherently eliminate normalization effects.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S. Smith whose telephone number is 571-272-4745. The examiner can normally be reached on M-F 7:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Art Unit: 3737

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-4745.

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

RSS